

WHAT IS CLAIMED IS:

1. A process for recovering ditrimethylolpropane from a still residue obtained by extracting and then distilling off trimethylolpropane from a reaction solution obtained by reacting n-butyraldehyde with formaldehyde in the presence of a basic catalyst, said process comprising:
  - 5     subjecting a formal compound contained in the still residue to acid decomposition.
2. A process according to Claim 1, wherein the acid decomposition of the formal compound is performed at a temperature of 20 to 180°C using a mineral acid and/or an organic acid.
3. A process according to Claim 2, wherein at least one compound selected from the group consisting of alcohols and hydroxylamine salts is added to the still residue together with the acid.
4. A process according to Claim 1, comprising the steps of:
  - i) subjecting the formal compound contained in the still residue to acid decomposition;
  - ii) removing high-boiling components having a higher boiling point than that of ditrimethylolpropane, from the still residue; and
  - iii) subjecting the resultant product to crystallization using a solvent.
5. A process according to Claim 4, wherein the removal of the high-boiling components having a higher boiling point than that of ditrimethylolpropane, is performed by molecular distillation.
6. A process according to Claim 1, wherein after the formal compound contained in a distillate obtained by removing high-boiling components having

a higher boiling point than that of ditrimethylolpropane from the still residue, is subjected to acid decomposition, the resultant product is subjected to crystallization using a solvent.

5           7. A process according to Claim 6, wherein the removal of the high-boiling components having a higher boiling point than that of ditrimethylolpropane, is performed by molecular distillation.

10           8. A process according to Claim 1, wherein after the still residue is first subjected to crystallization using a solvent and then the formal compound contained in the resultant crystallized product is subjected to acid decomposition; the resultant reaction mixture obtained from the acid decomposition is subjected to crystallization.

15           9. A process for recovering ditrimethylolpropane from a still residue obtained by extracting and then distilling off trimethylolpropane from a reaction solution obtained by reacting n-butyraldehyde with formaldehyde in the presence of a basic catalyst, said process comprising:

20           removing high-boiling components having a higher boiling point than that of ditrimethylolpropane, from the still residue; and  
              subjecting the resultant product to crystallization.

25           10. A process according to Claim 9, wherein the removal of the high-boiling components having a higher boiling point than that of ditrimethylolpropane, is performed by molecular distillation.

            11. A process according to Claim 9, wherein the solvent used upon the crystallization is water.